DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-028698
Date Inspected: 02-Nov-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 700
OSM Departure Time: 1730
Location: Job Site

CWI Name:	Bernie Docena and Steve Jensen			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☐ No	☑ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: SAS OBG

Summary of Items Observed:

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 5E-PP29.5-E5 deck access hole outside, QA randomly observed ABF/JV qualified welder Lou Xiao Hua continuing to perform CJP groove welding repair on a Non-Seismic Performance Critical Member (SPCM) due to Ultrasonic Testing (UT) detected defect on welded splice butt joint. The welder preheated the repair area and its vicinity to >150°F using propylene gas torch prior excavation and then ground smooth the groove of the excavation. After its completion, ABF QC Steve Jensen performed Magnetic Particle Testing (MT) on the removal of the defects with no relevant defect noted during the test. This QA also performed same test verification and noted same result.

The welder was noted using propylene gas torch to preheat the repair area and its vicinity to 150°F and as soon as the required temperature was attained the welder started performing the welding repair. Welder Lou Xiao Hua was observed manually welding in 4G (overhead) position utilizing Shielded Metal Arc Welding (SMAW) with 3.2mm diameter E7018H4R electrode implementing Caltrans approved welding procedure ABF-WPS-D15-1000 Repair. Welder Lou Xiao Hua was noted welding at various Y locations. During welding, ABF QC Steve Jensen was noted monitoring the welder's welding parameter with measured working current of 126 amperes on the 3.2mm diameter E7018H4R electrodes. At the end of the shift, repair welding at the location mentioned above was still continuing and should remain tomorrow.

	Y-location	Length	Width	Depth	RWR#	Remarks
1.	1065mm	100mm	30mm	12mm	N/A	R2- excavated.
2.	1380mm	150mm	35mm	12mm	N/A	R2- completed.
3.	1550mm	100mm	30mm	12mm	N/A	R2- completed.

At OBG 1E/2E outside, ABF welder Wu Gue Chen was observed overhead welding/fixing the removal of welded temporary attachments. The welded temporary attachment shims are located underneath the OBG particularly where the cross beams are bolted. During the initial inspection where access were available, welded temporary attachments at cross beams number 1 thru 3 along the East bound were noted having undercut that requires fixing through welding. This was brought to the attention of the Lead QC Bonifacio Daquinag and also Task Leader Danny Reyes. During the shift, ABF welder Gue Wu Chen has ground smooth the removal of some of the welded temporary attachment and welded those that require welding. Together with ABF QC Bernie Docena, this QA performed visual inspection and Magnetic Particle Testing (MT) on the removal of some of the attachments. This should continue on all cross beams along the East and West bound.

At Tower elevation 139 meter, this QA randomly observed ABF/JV qualified welder Richard Garcia continuing to perform 1G/4G (flat/overhead) position Partial Joint Penetration (PJP) welding 6mm bent plate butt joint per Request for Information ABF-RFI-002642R01 dated December 6, 2011. The RFI pertains to the modification of the Tower Lift 4 Façade Seal Elevator interference. The welder was noted implementing the Option #3 and detail #3 of the RFI's attachment.

During welding, the welder was observed manually welding in 1G (flat) position utilizing self-shielded Flux Cored Arc Welding (FCAW-S) with 0.035" diameter E71T-11 wire electrode implementing Caltrans welding procedure ABF-WPS-D11-2044. ABF QC Fred Michels was noted on site monitoring the welder and his welding parameters with measured working current of 80 amperes and 16 volts. During the shift, two bent plates modification were done at north and west shafts of the Tower at elevation 139 meter and the welder has moved to elevation 143 meter and started cutting the same bent/seal plate modification.

FW Spencer:

At OBG location panel point PP112 to PP116, this QA randomly observed FW Spencer qualified welder Damian Llanos continuing to perform Complete Joint Penetration (CJP) 6G (all position) Shielded Metal Arc Welding (SMAW) welding root pass to cover pass on 2" weldolet to 4" diameter compressed air line field branch joints. The welder was noted welding the branch joints on 2" diameter weldolet to 4" diameter compressed air line. The welder was noted welding the root pass with 3/32" diameter E6010 electrode and followed by fill pass to cover pass using 3/32" diameter E7018H4R electrode implementing Caltrans procedure FW Spencer WPS 1-12-1. The welder was noted preheating and removing the moisture of the joint using a portable propylene gas torch prior welding. During welding, ABF QC Steve Jensen was noted monitoring the parameters of the welder. At the end of the FW Spencer shift, CJP welding on three (3) 2" diameter weldolet to 4" diameter compressed air line pipe joints were completed.

Line Service	Pipe Size	Panel Point Location	Joint Designation

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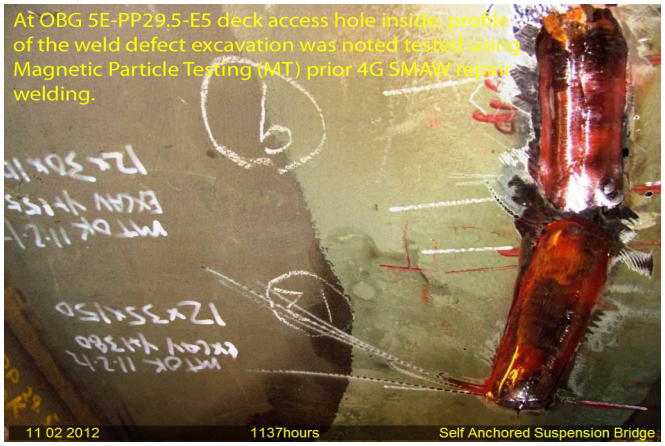
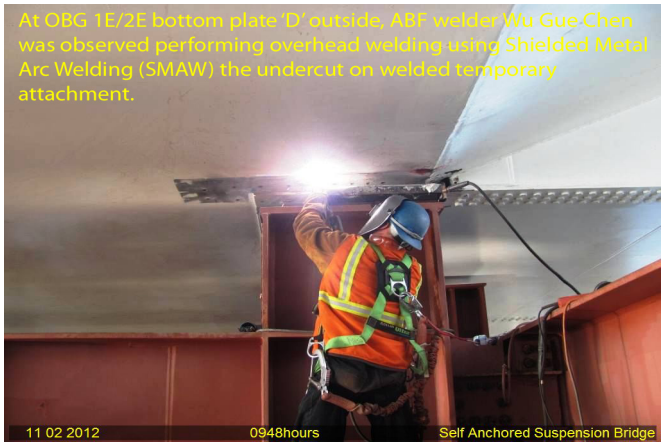
1. Compressed Air 2” weldolet 112 Northwest 1/CA2/112/NW
2. Compressed Air 2” weldolet 114 Northwest 1/CA2/114/NW
3. Compressed Air 2” weldolet 116 Northwest 1/CA2/116/NW





Summary of Conversations:

No significant conversation occurred today.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Lizardo,Joselito	Quality Assurance Inspector
Reviewed By:	Reyes,Danny	QA Reviewer